Notebook, N-01-04-20

The one dated entry in this notebook is from April 1901. All entries are by Edison. The book contains notes, drawings, and calculations pertaining to the design, construction, and layout of works for the manufacture of storage batteries. Included are a list of "articles wanted," drawings of chemical apparatus and other equipment, sketches of plant layout, and other notes regarding the character and the scale of operations. In a few cases equipment is identified for removal from the ore milling plant at Ogden, New Jersey, to the new storage battery facility. The pages are unnumbered, and the book has been used in both directions. Approximately 60 pages have been used.

100 persons 150 dollars — $30 per ~~cent~~
5 batteries.
Centers.

90 159

Storage Battery April 20 1901

Factory processes

List of articles wanted.

1 Rolls for rolling .002 sheet.
2 " " " finishing
3 annealing ovens for annealing sheet.
*5 Nickel plating dept—
6 perforating rolls
7 Forming presses for Cups
8 Presses for punching grid
9 — " " flattening "
10 press for punching hole in grid lug
11 Shears for cutting grid stock

12 – 2 Hydraulic presses + accumulators

13 – Several ~~Battery~~ Corrugating Dies for setting Cups in grid –

14 =

15 = Ingot press

16 ~~Plate~~ Cake presses

17 - Auto assembling machine putting Cakes in Cups –

18 Auto assembling Cups in grid

19 Auto screws machine for forming bottom lugs on grids for posts + Connecting rod –

20 Hard rubber forming press for Corrugating Hot water device

21 Hard rubber punch + Die

22 ~~Press for~~ + ~~Die~~ for making battery Cell – soldering device –

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37 - press for cover of Gathering jar

38 - Kettle for Jar mixing for sealing jar

39 Screw mandrels for metal vent, non nickel plated

40

41 Long wooden Louisville tanks for washing Nickel Hydroxide

42 = two large steam kettles for Boiling making $Ni(H_2O_2)$ + smaller to regenerate the excess nickel

43 - Kettle for dissolving NaOH + rough filtering liquid -

44 Crocks for making $NiSO_4$ from oxide

45 = Steam and bath for heating Crocks

46 = filter stands wire screen trays etc for filtering $Ni(H_2O_2)$

47 – air chamber rack-agate pans – Steam coil + Exhaust fan for Drying $Ni(H_2O_2)$

48 – small light Chilean mill for crushing dried $Ni(OH)_2$ for chlorinating

49 – Chlorine Generator + Ventilator

50 Chlorinating table, Hood etc with racks for tubes etc,

51 – percolating bench + water pipes for percolating

52 = Drying chamber for drying Ni_2O_3 dup of Hose for $Ni(OH)_2$

53 – Chilean mill for grinding + screening + blowing chamber for washing Ni_2O_3 fine than 200 mesh

54

55

56 · Some device for mixing Na Perox with grafite.

57 = possibly ~~Kettle steam jkts~~ for oxalate iron

58 – Tanks for washing oxalate

59 ~~filtering~~ rax "

60 Drying Chamber "

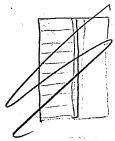
61 – Furnace for igniting "

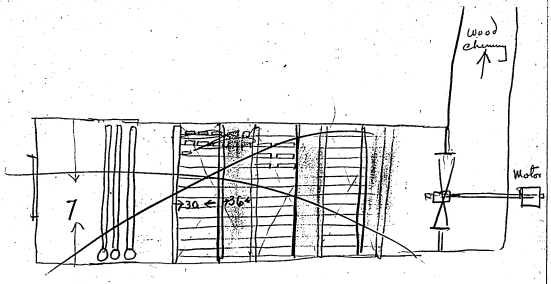
62 Device for mixing FeO with grafite

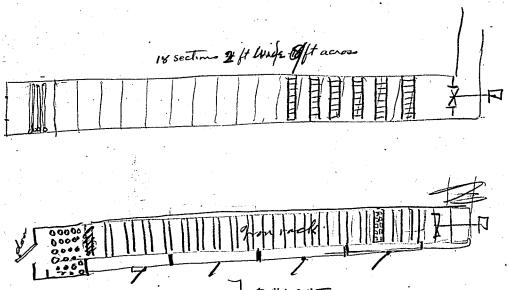
63 Ingot press for FeO

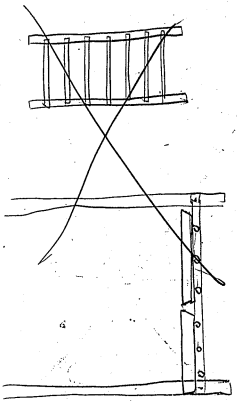
64 Cake press "

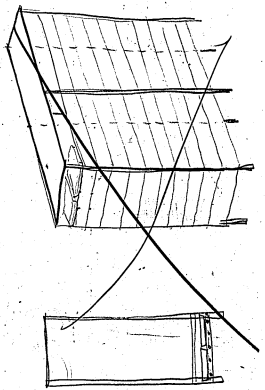
65 filter press —
66
67
68
69 — office
70 - Test room —
71 Packing room
72 Store room for supplies + chemicals
73 — Driven well for water —
74
75
76
77
78
79
80

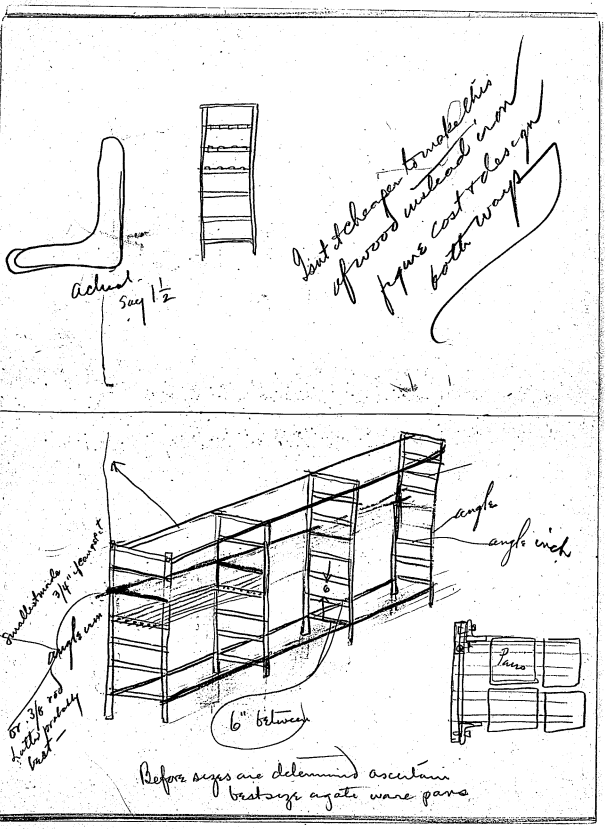


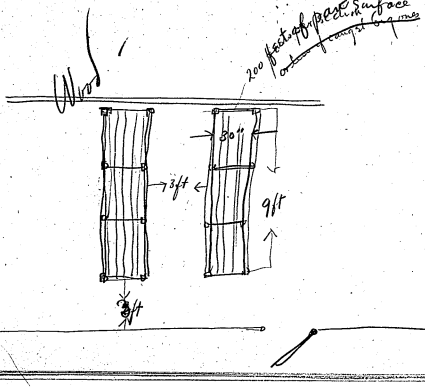

Wood
chum
Motor
7
30
36

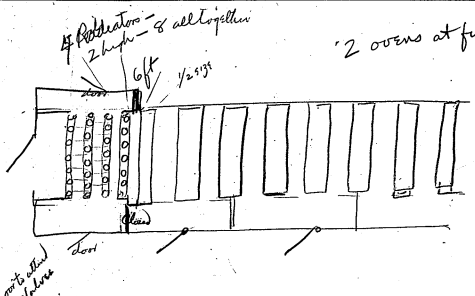

18 sections 2 ft wide 36 ft across
Top views

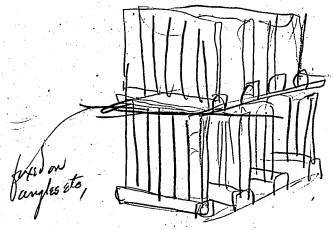





actual
Say 1 1/2
Just to keep on turntable
of wood instead
figure controls on
both ways
angle
angle inch
small strip 3/4 apart
6
6" between
Before sizes are determined ascertain
breakage again ware pans


200 feet of paper on surface
3ft
30"
9ft
3ft



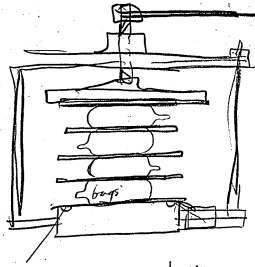


Water trapped backed to hot well @ boiler –

Investigate filter presses
+ see rate + kind of material
Can be worked —

How about Cotton filter press
Bags etc = Ascertain
Who makes press — see
Wiley of Cooper + Co
about filtering press —

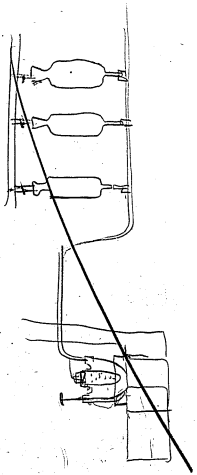
Find out about sizes
Steam Kettles —

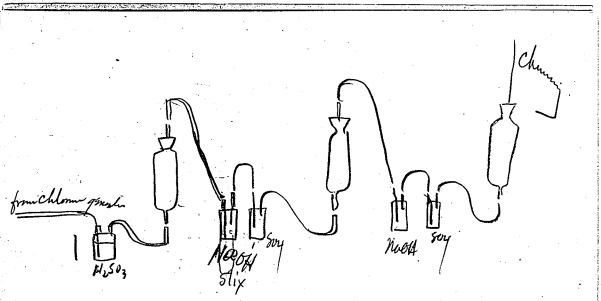


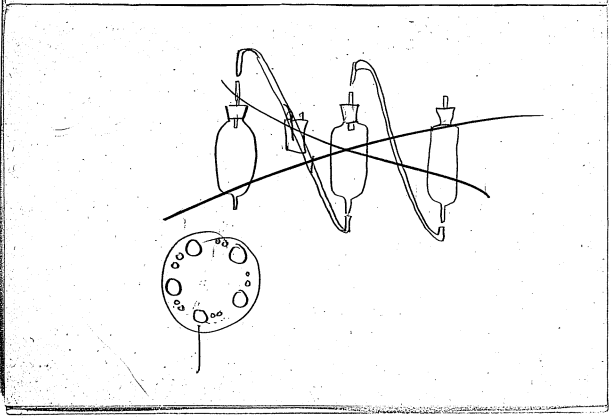
Hand press
of iron bags
about 18" dia
30 long or
thereabouts
Bags made out
of heavy canvas

filter

Look up Cider presses



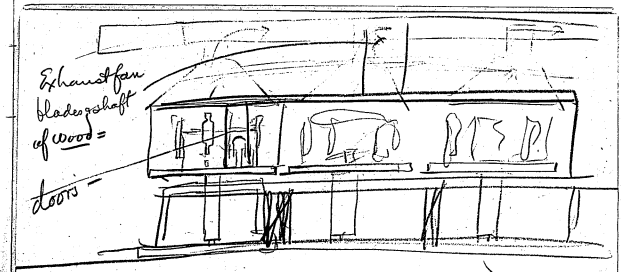

from chlorinator
H_2SO_3
NaOH
Soda
Lime
NaOH
Soda



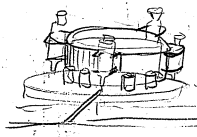
4 Hours - 180 Lbs Steam per hour.

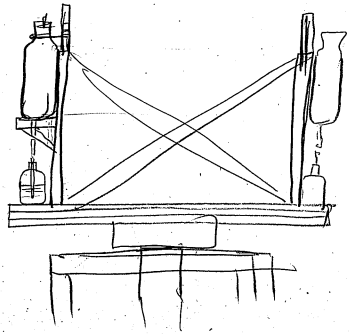
10 Lbs Cast Iron

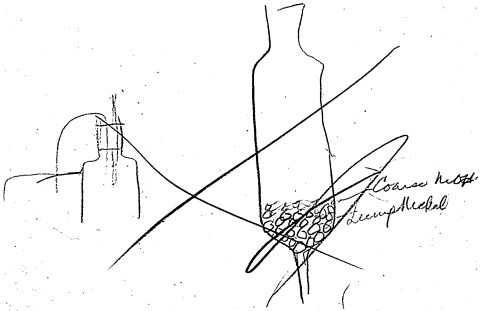
5 Men - Required - Pouring in 15

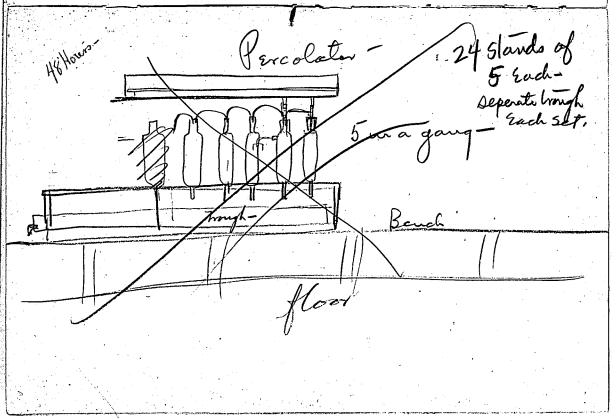


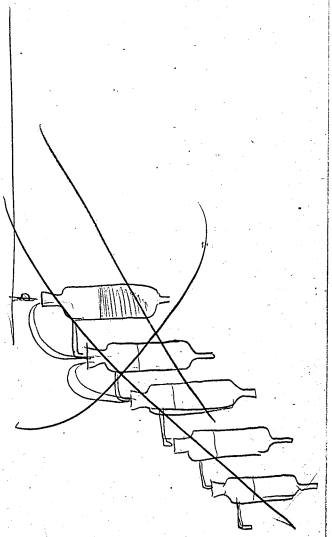
Rotate = Wood duck 3 ply | inch board
sleepers = wood post | iron bottom center

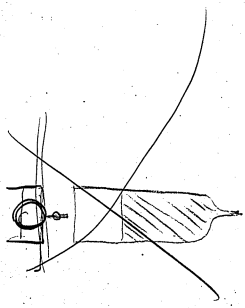


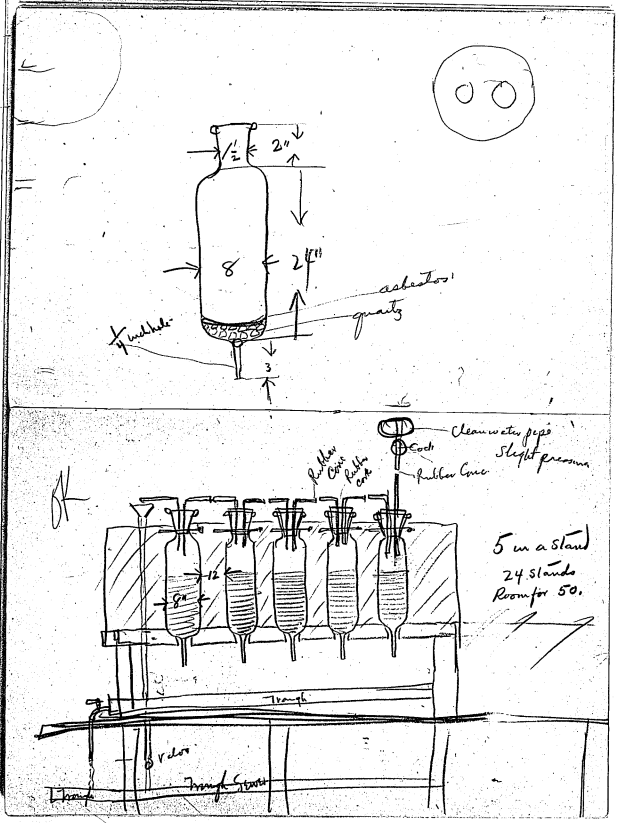



Coarse Mesh
Lump Alcohol

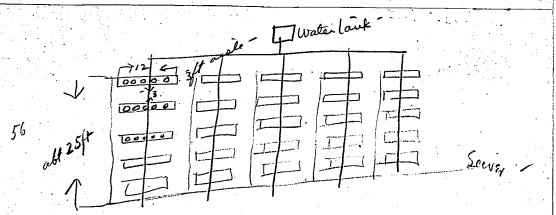

Percolator -
24 stands of 5 each -
Separate trough each set.
5 in a gang -
Trough -
Bench
floor



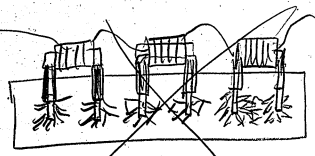



½
2"
8
24"
asbestos
quartz
4 inlets
3
Clean water pipe
Slight pressure
Cock
Rubber Cone
Rubber Cork
Rubber cork
12
8"
5 in a stand
24 stands
Room for 50.
Trough
Trough Stand

20'
60000


Water tank
7½
3ft
56
25ft
Sewer
3ft aisles

How about a Cylinder of sieve wire — rotating for nickeling -



plating Cups

plating baths for 200,000 Complete Cups daily
or 400 000 pieces

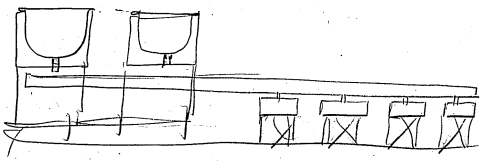
" " 300 battery jars -

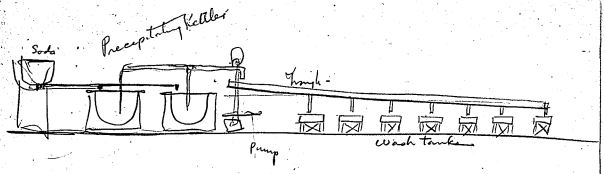
" " 8000 grids

Investigate as to best + cheapest way to handle the amount + space, power + devices necessary —

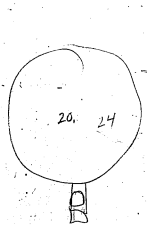
Mem Soda Kettle needs no heat, wants good
Cover + Soda Lye to be drawn off at bottom by
[illegible] cock through an iron box filled with [illegible] Coke
+ fine mesh screen — to filter chips out —
it should be piped over to precipty Kettles —
to save handling —

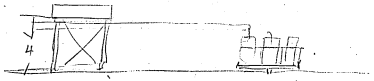
Sell the Corliss Engine —
Buy 100 HP direct Isolated plant direct Coupled 125 Volt outfit
possibly angle [illegible] which at once can be used
+ dynamo found to work direct,



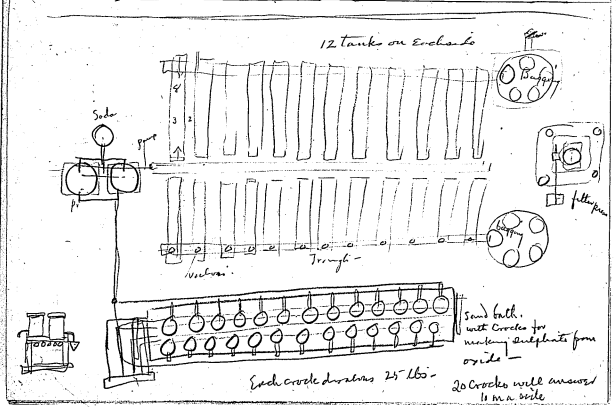


Steam jacketed or Steam Coils inside —
Can probably use those at
Edison — also Tank up
there for Soda —





Workshop about drumwells in the Valley


12 tanks on Enclosure
Soda
Trough
Sand bath with Crocks for making sulphate from oxide
Each crock donates 25 lbs
20 Crocks will answer 1 m.a. week

Steam heat pipes etc to get from Edison

also all supplies possible,

Musical agate ware try tin see if stuff

dries on steam bath good with tin – also try

iron pans. run in iron (plumbed to iron) also

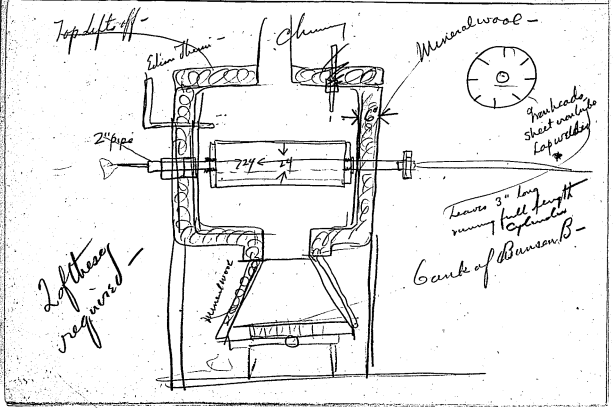
try agate = Commercial sizes of above

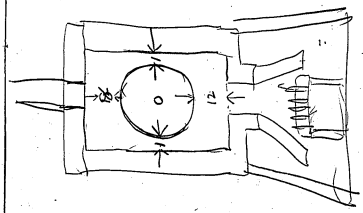
Vacuum tubes

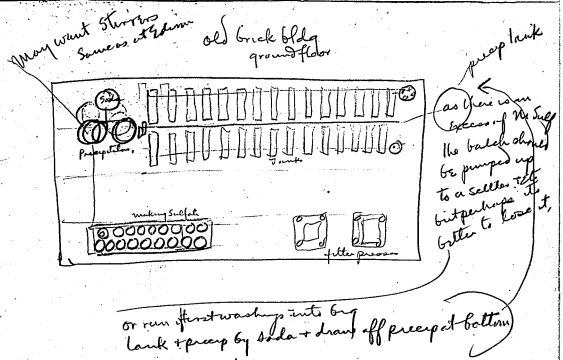
Exhaust fanes from Edison —

Why not get lumber from Edison by

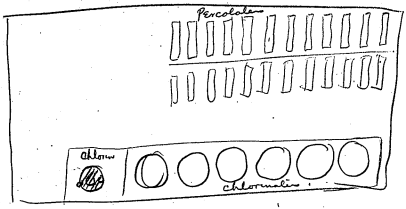
Ironing down a bldg —



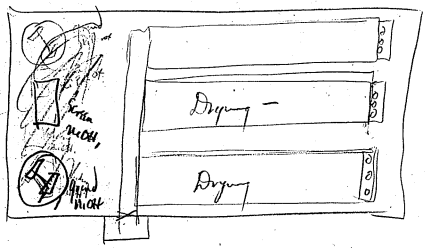



May want stirrers
Sauces etc in
old Brick bldg
ground floor
precip tank
as there is an
excess of
the batch should
be pumped up
to a settling tank
but perhaps it
better to leave it,
Pump
Pump
Pump

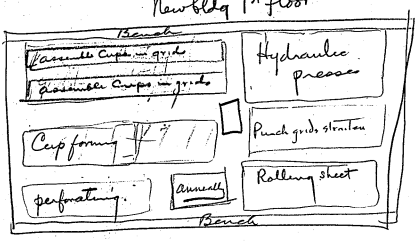
2nd floor old bldg



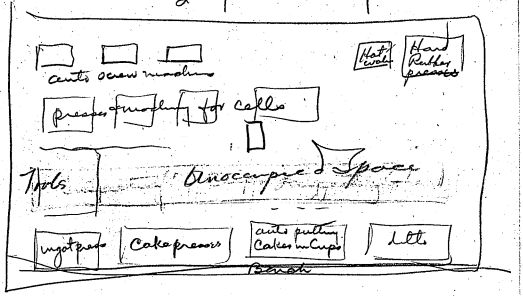
3rd floor old bldg



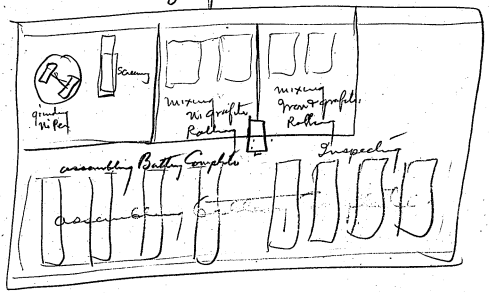
New bldg 1st floor



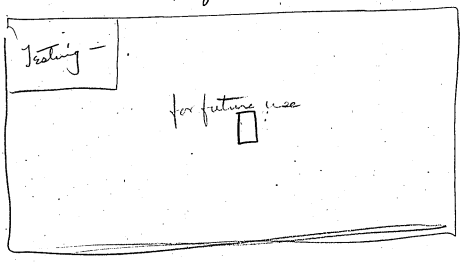
2nd floor new bldg -



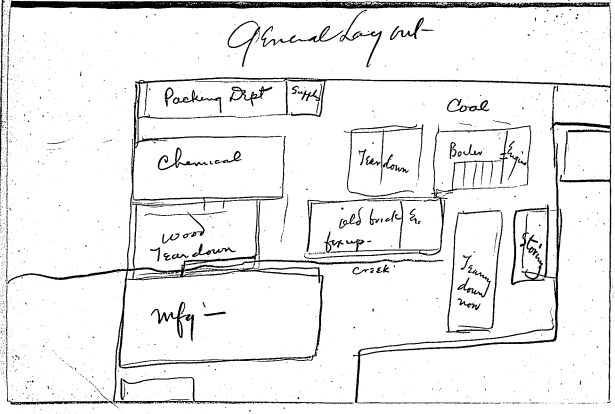
3rd floor -



4th floor -



General Layout



Sealing jars —

The pitch for sealing showed 6x viscous at 30 below zero —
& not run at 212 must not be attacked by KOH —

~~Bird Lime~~

~~Ordy Concrete~~

~~Asphalt~~

Albany Grease,

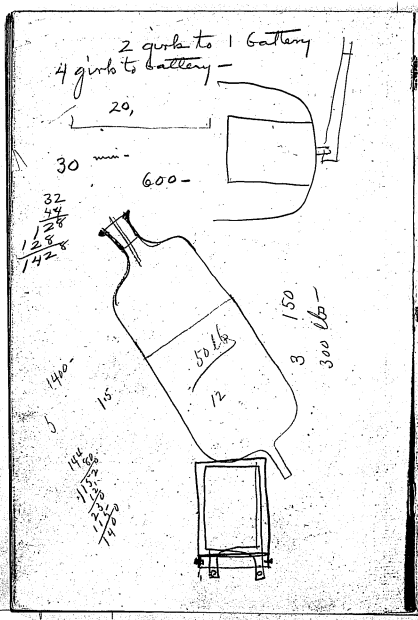
Rubber in Benzol with Asphaltum also clean pitch,

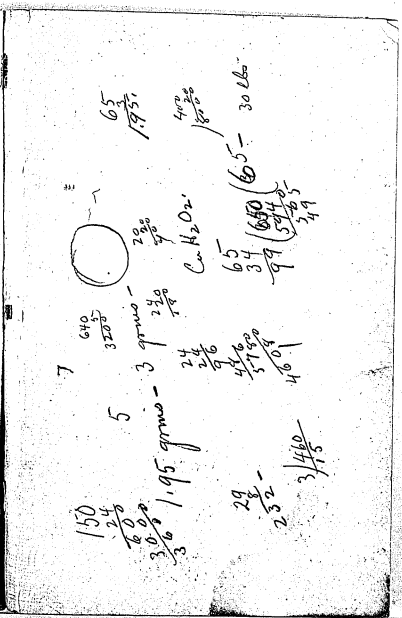
Howes Marine glue

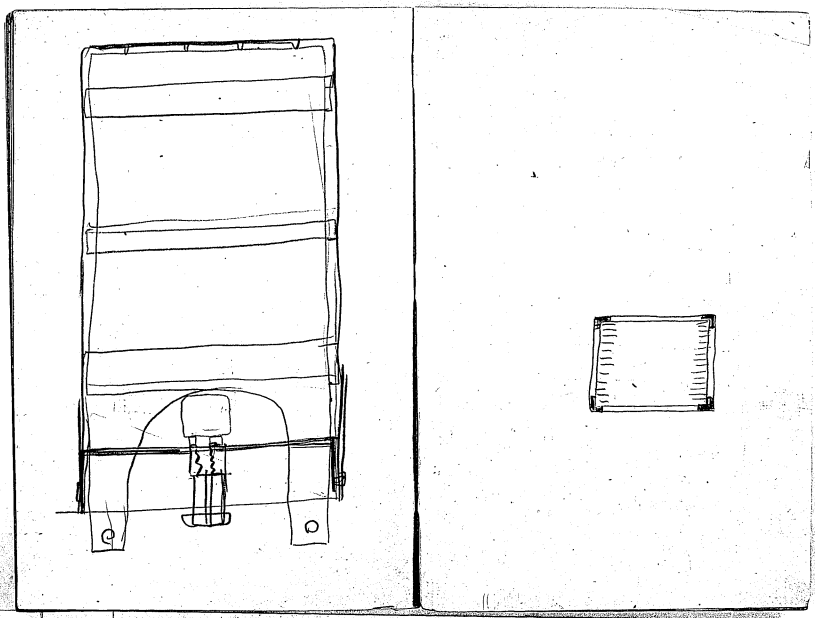
Sulphurated Asphalt, same as Callender nice gave me

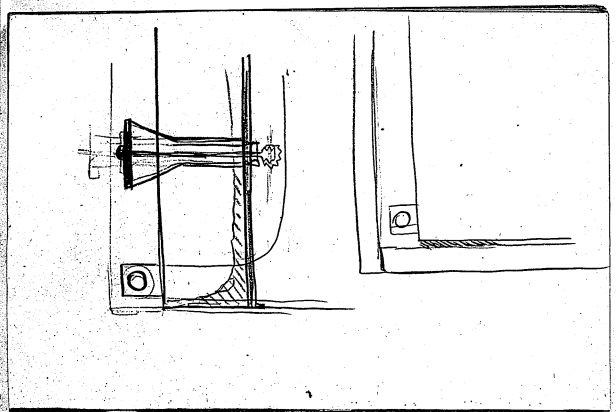
Balata,

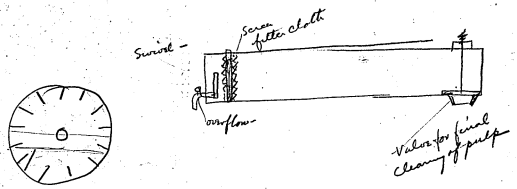
[THIS BOOK WAS USED IN BOTH DIRECTIONS. THE FOLLOWING PAGES WERE FILMED FROM THE BACK END FORWARD.]

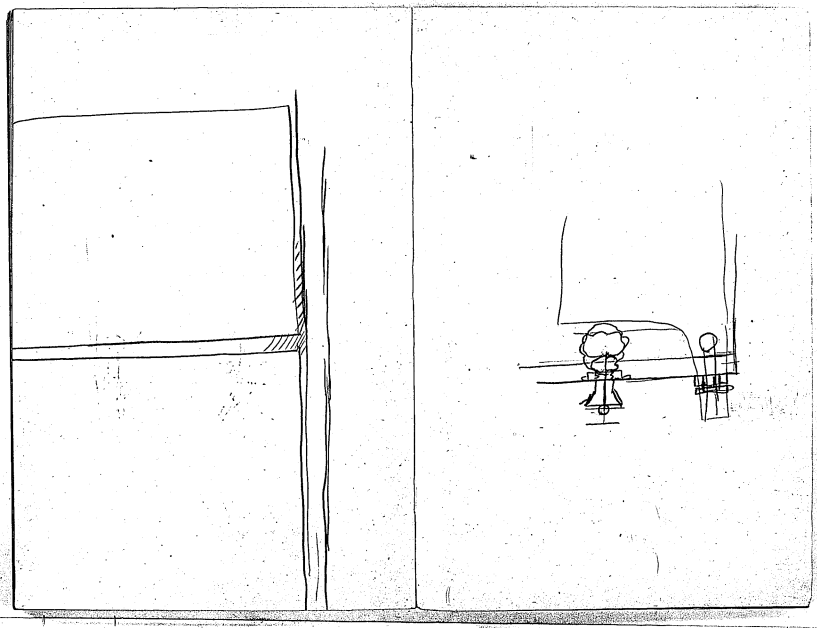


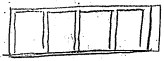


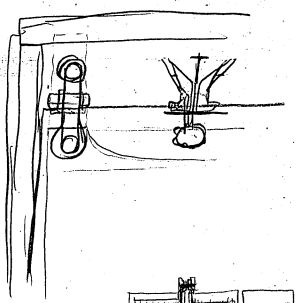


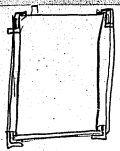



Swivel
Screen
filter cloth
overflow
Valve for final
cleaning of pulp

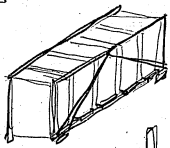






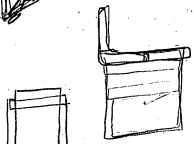


44/5
220

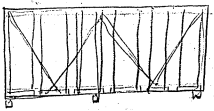


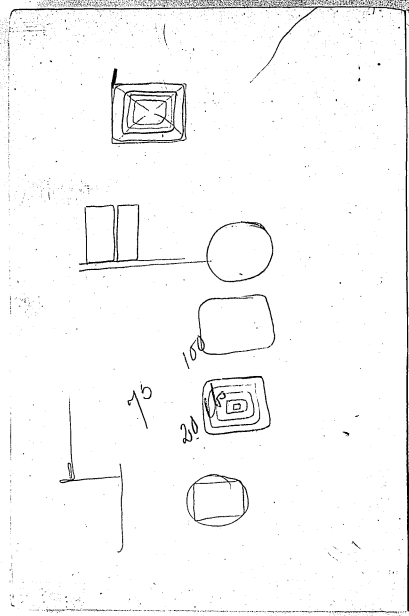
250

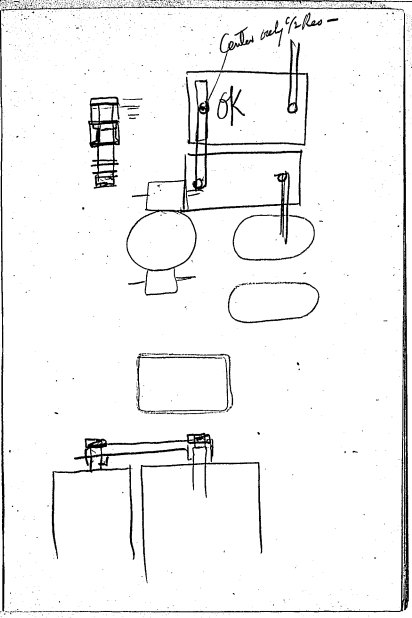
1½

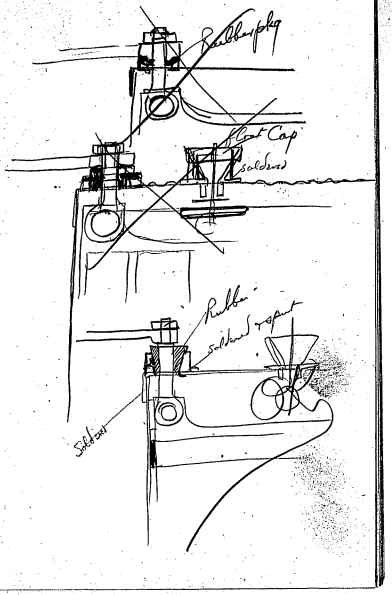


1000-
5/1500
300




100
75
20


Center body Pin Res –
OK


Rubber plug
Float Cap
Soldered
Rubber
Soldered joint
Solder